WILDLIFE UPLAND HABITAT MANAGEMENT
(acre)
CODE 645

Natural Resources Conservation Service
Conservation Practice Standard

Definition

Creating, restoring, maintaining, or enhancing areas for food, cover, and water for upland wildlife and species which use upland habitat for a portion of their life cycle.

Purpose

To create, maintain, or enhance habitat suitable for sustaining desired kinds of upland wildlife.

Conditions Where Practice Applies

On all lands that are suitable for the kinds of wildlife food or cover plants that are needed.

Scope

This standard and specification describes minimum habitat requirements and management recommendations for upland wildlife. Consult the local DNR wildlife manager for recommendations to maximize wildlife numbers.

Precautionary note: Land users should be apprised of the fact that habitat manipulation to favor a featured species of wildlife will impact upon the entire animal community. The effects on nontarget species may be beneficial or adverse, depending upon the nature of the prescribed management and the habitat requirements of the resident wildlife. Careful consideration should be given to endangered or threatened species and other nontarget species before making detailed recommendations for single species management.

Specifications Guide

At least one of the following options (A-J) must be completed.

A. Ring-necked Pheasants, Upland nesting Waterfowl, Hungarian (Gray) Partridge, Grassland Songbirds

1. Habitat Management

   a. Nesting cover

      Retain existing grassy or herbaceous cover wherever possible. Nesting cover should be free of woody vegetation. Mixtures of grasses and forbs are preferred. Large blocks of cover are preferred over several small blocks.

      Establish nesting cover by planting one of the seeding mixtures found in Table 1.

      Protect nesting cover from grazing and from unplanned fire. Mow after August 1 and before September 1 when necessary to control invading weeds or brush.

   b. Winter cover - Pheasants and Hungarian Partridge

      Retain existing shrubs, brush, marshes, and shrubby hedgerows. Plant clumps of shrubs in odd areas. Use a minimum of 50 shrubs per clump and space 6 feet x 6 feet. Refer to Table 2 for recommended shrub species. Patches of warm season grasses including grasses with good standibility such as switchgrass and Indiangrass also can provide winter cover.

   c. Food

      Pheasants - Establish food plots 1/4 to 1/2 acre in size adjacent to winter cover areas such as dense cattail wetlands or dogwood wetlands. Landowners can usually provide information on where pheasants are overwintering. Refer to NRCS Job Sheet 136, *Wildlife Food Plots*, for additional food plot information.

Hungarian partridge - Not as reliant on food plots as are pheasants; however, they will also utilize food plots adjacent to brushy upland areas.

B. Bobwhite Quail and Cottontail Rabbits

1. Habitat Management

a. Nesting cover

Quail and cottontails are associated with edge cover and are often found nesting in idle fields during the perennial weed stage and early shrub and bramble stage of secondary succession. Where nesting cover is in short supply, cover can be developed by planting a suitable mixture found in Table 1.

b. Winter cover and travel lanes

Retain existing areas of shrubs, brush, and shrubby hedgerows or develop "cut-back" borders along woodland edges (see Field Border, 386). Such areas can be improved by cutting trees over 2 inches in diameter and retaining shrubs, briars, vines, and mast-producing trees. Desirable native shrubs to encourage or selectively manage include sumac, dogwood, hawthorn, serviceberry, cherry, plum, crabapple, viburnums, ninebark, hazelnut, and elderberry. Shrubs are especially valuable when planted in clumps (as previously described for pheasants) or when planted in hedgerows (see Hedgerow, 422). Wherever possible, establish a minimum of 660 feet of hedge for every 40 acres of habitat.

Brush piles are valuable additions to the habitat for both rabbits and quail. Build brush piles within 150 feet of the woodland edge, make then 3-6 feet high, at least 12 feet wide, and pile the logs loosely.

c. Food

Establish food plots or strips at least 1/4 acre in size near brushy winter cover areas. Refer to Job Sheet 136.

C. Ruffed Grouse

1. Habitat Management

a. Northern forest

Grouse in the north are reliant on aspen. Grouse need various age classes of aspen; dense sucker stands less than 10 years old are used as brood habitat, pole stands 10-25 years old are used as wintering habitat and breeding habitat, stands over 25 years old are a primary source of food (buds and catkins).

Because grouse management in the north is essentially aspen management and because commercial aspen harvest and grouse management can go hand in hand, professional forestry assistance is essential so that sound wildlife management decisions can be made.

1) The goal is to have the various age classes previously described.

2) Our primary concern, however, is to maintain the aspen cover type. Stands over 40 years old should be evaluated and clear-cutting scheduled before the stand loses its vigor, even if it means cutting larger blocks than would be desired for optimum grouse habitat.

3) Post treatment to eliminate remaining canopy cover of nonmerchantable trees should be done so that aspen regeneration is not adversely affected. Two to three den trees per acre or 2-3 oaks per acre can be left to benefit other wildlife species.

4) Small block cuttings of 10-20 acres or less are much preferred over larger cuttings. Confer with DNR forestry and wildlife personnel for scheduling harvest.

5) Create openings as described for deer.

b. Central Sands

1) Maintain aspen by clear-cutting wherever possible.

2) Fence cattle out of the woods.

3) Avoid converting aspen and oak to red pine.

c. Driftless Area

1) Eliminate woodland grazing by fencing.

2) Use cut-back borders (Field Borders, 386) to encourage dogwoods, hazel, blackberries and other shrubby growth.

3) Plant a few small clumps of conifers (red-cedar or spruce); 50-70 trees per clump. Planting shrubs along the wood's edge may be useful if natural shrubs are lacking.

D. Sharp-Tailed Grouse

1. Habitat Management

a. Minimum size land unit needed for a year-round sharp-tail population is 1 square mile. Management practices can be implemented on smaller tracts but should be consistent with the habitat needs within the larger area. Planned management for this species should be coordinated with the DNR wildlife manager.

b. Dense grasses should be developed on a minimum of half the area. Scattered trees or clumps of trees about 1 acre in size are desirable. The grassland may be grazed moderately after July 15.

c. Thin the woodland on the other half of the area so that tree canopy provides no more than 50 percent cover and develop ten 10-acre clearings for each 320 acres of "savanna." Maintain shrub cut-back borders along woodland edges (see standard for Field Border, 386).

d. Prescribed burning to maintain or restore sharp-tail habitat is a major habitat tool. Refer to standard 338.

E. White-Tailed Deer

1. Habitat Management

a. Develop good interspersion of food and cover.

b. Harvest timber using even-aged management wherever practical.

c. Protect woodlands from livestock.

2. Food

a. A major portion of the diet consists of twigs of shrubs and trees, although herbaceous plants including native grasses and forbs and domestic hay and grain crops are eaten frequently during snow-free seasons. Acorns and other fruits are relished when available. Practical management is applicable to woodlands only. Manage woodlands to favor aspen, oaks and other mast-producing trees, and shrubs.

b. Plan timber cutting to provide winter browse and encourage sprouting.

F. Wild Turkeys

1. Habitat Management

a. Unlike deer, turkeys are better adapted to mature hardwood forest, but frequent openings in the forest canopy are desired.

b. Develop cut-back borders (see standard for Field Border, 386) and maintain "old field" succession around woodland edges.

c. Protect woodland from livestock.

2. Food

a. Manage woodlands to favor oaks and other mast-producing trees.

b. Leave strips of corn unharvested or plant food plots near woodland edges. Refer to Job Sheet 136.

G. Tree Squirrels

1. Habitat Management

a. Leave at least 2-3 den trees per acre of woodland or provide an equivalent number of constructed den boxes at least 21 feet above ground.

b. Limit clear-cuts to strips less than 535 feet wide and always retain 40-60 percent of stand in seed-producing stage.

2. Food

a. Manage woodlands to favor hickory, oak, elm, beech, maple, and a diversity of other fruit or mast-producing trees.

b. Hickory provides the most important high-energy food for squirrels. There should be at least 4-8 mast-producing hickories (12 inches dbh) per acre and they should be maintained in equal abundance with oaks. This abundance of hickories corresponds to a basal area of 3-6 square feet/acre.

c. Although squirrels readily consume corn, it is necessary for their survival only in years of mast failure.

H. Other Wildlife

Where specific nongame wildlife species are desired, determine the specific habitat needs for the featured species and work with a species expert to prepare a detailed site plan before proceeding with habitat alterations.

J. Wildlife as Secondary Land Use*

1. Cropland - Wildlife Land

Existing herbaceous field borders and grassed waterways are left unmowed until

after August 1, existing woody cover in fence rows or waterways is maintained, and at least one of the following measures is applied:

a. Patches or strips of crops grown for grain are left unharvested for food and cover in amounts shown elsewhere in this standard for the species to be benefited.

b. Grain crop residues such as corn, wheat, milo, or grain sorghum are left standing (untilled and ungrazed) over winter. Soybean residue does not qualify because of the inadequate amount of cover provided.

* Wildlife Upland Habitat Management (645) will be considered to be applied where wildlife is a secondary land use and the required specifications and management measures listed in Section J are in effect.

2. Woodland - Wildlife Land

Meets minimum standards and specifications for livestock exclusions plus at least one of the following:

a. A minimum of 3 oak, hickory, or other food-producing trees or den trees per acre are maintained during harvest cuts or woodland improvement operations.

b. All trees, shrubs, and vines (except mature merchantable trees) are left undisturbed within the 50-foot border of the woodland. When mature trees are harvested, tops and limbs are left to form loose brush piles.

TABLE 1
NESTING COVER FOR GRASSLAND BIRDS

Mix No.	Species (in Pounds of Pure Live Seed per Acre)	pH Minimum
	INTRODUCED GRASSES	
1	Timothy 1#, Smooth Bromegrass 4#, Alfalfa 7#1	6.5
2	Timothy 1#, Orchardgrass ½#, Smooth bromegrass 2#, Alfalfa 7#	6.5
3	Timothy 2#, Smooth bromegrass 4#, Red Clover 6#, Ladino ½# (optional)	6.2
	NATIVE GRASSES	
2	Big bluestem 5#, Switchgrass 3#	5.5
3	Big bluestem 3#, Switchgrass 2#, Indiangrass 3#	5.5
4	Big bluestem 3#, Switchgrass 2#, Indiangrass 3#, Little bluestem 2#	5.5
	NATIVE GRASSES AND FORBS	
5	Switchgrass 3#, White Wild Indigo 2oz., Black-eyed Susan 1 oz., Yellow coneflower 1 oz.	5.5
6	Switchgrass 3#, Canada Tick Trefoil 1 oz., Black-eyed Susan 1 oz., Yellow Coneflower 1 oz.	5.5
7	Big bluestem 3#, Switchgrass 1#, White Wild Indigo 2 oz., Black-eyed Susan 1 oz., Yellow Coneflower 1 oz.	5.5
8	Big Bluestem 3#, Switchgrass 1#, Canada Tick Trefoil 1 oz., Black-eyed Susan 1 oz., Yellow Coneflower 1 oz.	5.5
9	Big Bluestem 1#, Switchgrass 1#, Indiangrass 3#, Little Bluestem 1#, White Wild Indigo 2 oz., Black-eyed Susan 1 oz., Yellow Coneflower 1 oz.	5.5
10	Big Bluestem 1#, Switchgrass 1#, Indiangrass 3#, Little Bluestem 1#, Canada Tick Trefoil 1 oz., Black-eyed Susan 1 oz., Yellow Coneflower 1 oz.	5.5
11	Big Bluestem 1#, Switchgrass 1#, Indiangrass 3#, White Wild Indigo 2 oz., Black-eyed Susan 1 oz., Yellow Coneflower 1 oz.	5.5
12	Big Bluestem 1#, Switchgrass 1#, Indiangrass 3#, White Wild Indigo 2 oz., Black-eyed Susan 1 oz., Yellow coneflower 1 oz.	5.5
13	Custom Seed Mixture - Refer to Agronomy Technical Note No. WI-5, and Conservation Cover Standard 327.	

Seedings are to be done according to Agronomy Technical Note No. WI-5, Wisconsin Job Sheet 134, and Wisconsin Job Sheet 135.

SEED SELECTION PREFERENCE

Native grass and forb seed shall be selected using the following order of preference:

1. Use seed from plants that are local in point of origin.
2. Use seed from plants grown at the same latitude.
3. Use a named variety from the same latitude.
4. Use other named varieties.

TABLE 2
WILDLIFE SHRUBS

Common Name	Scientific Name
Gray Dogwood	*Cornus racemosa*
* Redosier Dogwood	*Cornus sericea*
* Silky Dogwood	*Cornus amomum*
Arrowwood	*Vibernum dentatum*
Nannyberry	*Viburnum lentago*
* American Cranberrybush, Highbush cranberry	*Viburnum opulus*
Chokecherry	*Prunus virginiana*
Juneberry, Serviceberry	*Amalanchier canadensis*
Leadplant	*Amorpha canescens*
New Jersey Tea	*Ceanothus americanus*
Winterberry	*Ilex verticillata*
Ninebark	*Physocarpus opulifolius*
Wild Plum	*Prunus americana*
Thornapple, Hawthorn	*Crataegus sp.*
Hazelnut	*Corylus americana*
* Elderberry	*Sambucus sp.*

*Can be used on wetter sites

SPECIAL CRP ADDENDUM - WILDLIFE UPLAND HABITAT MANAGEMENT

Supplemental design information for Wildlife Practices - Conservation Reserve Program.

CP-1

Seedings are to be done according to Agronomy Technical Note No. WI-5 and Wisconsin Job Sheet 134.

CP-2

Seedings are to be done according to Agronomy Technical Note No. WI-5 and Wisconsin Job Sheet 135.

CP-4B and CP4D

Plantings should be done according to Wisconsin Job Sheet 142. Use only the species and spacings in Job Sheet 142.

CP-9 and CP-23

Design according to Standard 657.

CP-12

Design according to Wisconsin Job Sheet 136.